

$^{11}\text{B}(\text{p},\text{p}): \text{res}$ 1957De11, 1977Ma37, 2017Ke05

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	J. H. Kelley, J. E. Purcell and C. G. Sheu		NP A968, 71 (2017)	1-Jan-2017

- 1957De11: $^{11}\text{B}(\text{p},\text{p})$ E=0.67, 1.4 MeV, measured σ .
- 1968Ge04: $^{11}\text{B}(\text{p},\text{p}), (\text{p},\text{p}')$ E=155 MeV, measured $\sigma(\theta)$, $P(\theta)$.
- 1969Ka15: $^{11}\text{B}(\text{pol. p},\text{P}), (\text{pol. p},\text{P}')$ E=30.3 MeV, measured $\sigma(E,\theta)$, asymmetry(θ).
- 1970Ho07: $^{11}\text{B}(\text{p},\text{p}), (\text{p},\text{p}')$ E=100 MeV, measured $\sigma(E_{\text{p}'},\theta)$. Deduced optical model parameters.
- 1974De45, 1975Ma49, 1977Ma37: $^{11}\text{B}(\text{p},\text{p})$ E=1.8-3.0 MeV, measured polarization $P(E,\theta)$, $\sigma(E,\theta)$. ^{12}C deduced resonances J^π , width, configuration.
- 1977Ph02: $^{11}\text{B}(\text{pol. p},\text{P})$ E=30 MeV, analyzed $\sigma(\theta)$, $A(\theta)$. Deduced optical model parameters.
- 1977Ri01: $^{11}\text{B}(\text{p},\text{p})$ E≤5.2 MeV, measured $\sigma(E,\theta)$. ^{12}C deduced resonances, J , π .
- 1978Ma56: $^{11}\text{B}(\text{pol. p},\text{P})$ E=1.8-3.0 MeV, analyzed $\sigma(E)$, analyzing power. ^{12}C deduced resonances, J , π , widths.
- 1979Al26: $^{11}\text{B}(\text{p},\text{p})$ E=1 GeV, measured $\sigma(\theta)$. ^{12}C deduced nuclear density parameters, quadrupole effects.
- 1980Fa07: $^{11}\text{B}(\text{p},\text{p}), (\text{p},\text{p}')$ E=35.2 MeV, measured $\sigma(\theta)$. Deduced optical model parameters. ^{12}C level deduced β_2 .
- 1985Al16: $^{11}\text{B}(\text{p},\text{p})$ E=1 GeV, measured $\sigma(\theta)$. Deduced model parameters, rms matter radii.
- 1986Mu08: $^{11}\text{B}(\text{p},\text{p})$ E=10-17 MeV, measured $\sigma(\theta)$. Deduced potential parameters.
- 1998Ma54: $^{11}\text{B}(\text{p},\text{p})$ E=1700-2700 keV, measured $\sigma(\theta=165^\circ)$. $^{11}\text{B}(\text{p},\text{p}')$ E=2600 keV, measured $\sigma(E_{\text{p}},\theta=165^\circ)$.
- 2001Ch78: $^{11}\text{B}(\text{p},\text{p})$ E=0.5-3.3 MeV, measured $\sigma(\theta)$.
- 2003Ha12: $^{11}\text{B}(\text{pol. p},\text{P})$ E=150 MeV, measured $\sigma(\theta)$.
- 2010Ko33: $^{11}\text{B}(\text{p},\text{p})$ E=2.2-4.2 MeV, measured proton spectrum, E_α , I_α . Deduced yields, $\sigma(\theta)$.
- 2011Am02: $^{11}\text{B}(\text{p},\text{p})$ E=300-1050 keV, measured proton spectrum. Deduced $\sigma(\theta)$, optical model parameters.

 ^{12}C Levels

E(level) [†]	J^π	Γ	Comments
$16.57 \times 10^3 \pm$		303 keV	$\Gamma_p/\Gamma=0.5$ (1957De11).
$17.24 \times 10^3 \pm$		2170 keV	$\Gamma_p/\Gamma=0.05$ (1957De11).
$17.87 \times 10^3 \pm 20$		79 keV 20	
18360 [‡] 10		265 keV 20	T=(1). E(level), Γ : From (1977Ma37), who suggest two resonances at $E_p=2.62$ and 2.66 MeV (± 10 keV) with $J^\pi; T=3^-; 1$ and 0^- , and $\Gamma_{\text{lab}}=290$ keV 20 and 30 keV 5. They suggest an additional $J^\pi=3^-$ resonance at $E_p=2.80$ MeV 1 with $\Gamma_{\text{lab}}=300$ keV 50. See also (1983Ne11) and discussion in $^{11}\text{B}(\text{d},\text{n})$.
18395 ^{‡#} 10		42 keV	See also $\Gamma=27$ keV 5 (1977Ma37) and discussion in $^{11}\text{B}(\text{d},\text{n})$.
$18.85 \times 10^3 \pm \#$		100 keV	
$19.1 \times 10^3 \#$			Γ : Broad.
$19.49 \times 10^3 \pm \#$		366 keV	
$19.72 \times 10^3 \pm$		229 keV	
$19.94 \times 10^3 \#$		367 keV	
$20.24 \times 10^3 \pm \#$		303 & keV 37	
$20.61 \times 10^3 \pm \#$		321 & keV 14	
$21.50 \times 10^3 \pm \# @$		266 & keV 23	
$22.00 \times 10^3 \pm @$		7.2 & MeV 11	
$22.47 \times 10^3 \pm @$		660 & keV 83	
23.05 $\times 10^3$	(2 ⁻)		T=1

[†] See references listed in (2017Ke05).[‡] Resonant in p_0 .[#] Resonant in p_1 .

 $^{11}\text{B}(\text{p},\text{p}): \text{res}$ 1957De11, 1977Ma37, 2017Ke05 (continued) **^{12}C Levels (continued)**

@ Resonant in p₂.

& Γ from R-matrix analysis; the Γ_{FWHM} for these states is 330, 320, 310, 710, and 330 keV, respectively.